

## JUNCUS TRIGLUMIS IN NORTH AMERICA

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In 1924 Fernald pointed out that Lange's *Juncus triglumis* var. *albescens* (Conspect. Fl. Groenl. 123. 1880) was actually specifically distinct from var. *triglumis* and concluded from his review of North American collections of the group that all of our material was referable to *J. albescens* (Lange) Fern. and that *J. triglumis* L. was strictly Eurasian. Evidently he saw few collections from the Rocky Mountains (he cited only three from Colorado) as it is now clear that both species occur there. This was first noted by the junior author, fortunately in time for inclusion of both species in the 5th edition of *Rocky Mountain Flora* (Weber, 1976) but not soon enough for *J. triglumis* to be included in *Manual of the Rushes (Juncus spp.) of the Rocky Mountains and Colorado Basin* (Hermann, 1975). It now seems desirable to establish the distribution of *J. triglumis* in North America as a whole.

In 1939 Porsild reported the occurrence of both *Juncus albescens* and *J. triglumis* in Alaska. Hultén (1968) treated *J. albescens* as a subspecies of *J. triglumis*. His distribution map for subsp. *triglumis* shows it as occurring in northern Alaska, northernmost Canada and Greenland, as well as in Eurasia.

Hitchcock (in Hitchcock, C. L., A. Cronquist, & M. Ownbey, 1969) regarded *Juncus albescens* as "a New World race, var. *albescens* Lange" and referred to *J. triglumis* var. *triglumis* as Eurasian.

To us, *Juncus albescens* appears to be sufficiently differentiated from *J. triglumis* (as it did to Fernald and Porsild), to merit specific rank. The characteristics enumerated in the following key, modified from that in Fernald's discussion, are well illustrated in Fernald's *Plate 249, Rhodora 35, 1933*. Moreover, the junior author has observed that the two taxa are found in quite different habitats, as indicated in the present key. In addition to the key characters, *J. albescens* shows a strong tendency to have a much paler perianth, and sometimes the bracts as well are distinctly whitish (hence the epithet *albescens*), but occasional plants will have the perianth as dark as in *J. triglumis*, apparently due to age and/or soil or exposure. In arctic Alaska the culms of *J. triglumis* tend to become much more elongated than elsewhere in its range, occasionally even equaling those of *J. albescens*.

## KEY TO JUNCUS TRIGLUMIS &amp; JUNCUS ALBESCENS

- Culms mostly 4.5–8 (35) cm high; *bracts* usually obtuse or the lower mucronate, generally conspicuously shorter than the flowers; *mature capsule* 4.5–7 mm long, conspicuously exerted from the perianth, firm, castaneous and conic to rounded below the short beak; *mature seeds* (including tails) 1.75–3 mm long; plant of wet gravels of snow melt basins of high altitudes. . . . *J. triglumis* L.
- Culms mostly 6–35 cm high, more slender; *bracts*, at least the lower, long-acuminate or long-awned and equal to or overtopping the lowest flower; *mature capsule* 3–5 mm long, included or barely exerted from the perianth, thinner and paler, rounder to subtruncate at summit; *mature seeds* 1.25–2 mm long; plant of peat bogs. . . . . *J. albescens* (Lange) Fern.

In the Colorado mountains *Juncus triglumis* is the more common of the two taxa. The only intermediate station for it between the Colorado mountains and Alaska appears to be Park County, Wyoming, in the Beartooth Mountains. Porsild (1939) says of its Alaskan distribution: "In Alaska *J. triglumis* appears to be less common than *J. albescens*. It is the more arctic-alpine of the two and along the north coast of Alaska reaches a short distance east of the Mackenzie where *J. albescens* is absent. *J. triglumis*, unlike *J. albescens*, is not limited to calcareous soils." Material examined from the herbaria of the Rocky Mountain area and the National Museum of Canada indicates that *J. triglumis*, besides being frequent to locally common in Eurasia, occurs in North America, in the mountains of Colorado, the Beartooth Range in northwestern Wyoming, in arctic Alaska (with one outlying station in the Alaska Range of central Alaska), the Yukon, and the extreme northwest of the Northwest Territories.

## REPRESENTATIVE SPECIMENS

**Colorado:** BOULDER CO., edge of swale on tundra, Nowit Ridge, 11,500 ft., ca. 8 mi. NW of Nederland, *Hermann 17055* (US, USFS); cirque of Arapaho Glacier, 11,000–11,600 ft., *Komarkova*, Aug. 12, 1972 (COLO); Upper Coney Lake, 10,900–11,200 ft., *Komarkova*, July 22, 1972 (COLO); Lake Envy, in cirque of Middle St. Vrain Creek Valley, 11,000 ft., *Komarkova*, Aug. 9, 1972 (COLO). GRAND CO., Pawnee Lake Cirque, 10,800–11,450 ft., *Komarkova*, Aug. 4, 1972 (COLO). LARIMER CO., wet gravels of tundra W of Lawn Lake, Mummy Range, 12,000 ft., *Willard 62186* (COLO). PARK CO., boggy basin S side of Hoosier Ridge, 11,500 ft., (solifluction lobes) *Weber 7912* (COLO). SUMMIT CO., cirque on E slope of North Star Mt., 11,500–12,250 ft., *Komarkova*, Aug. 9, 1973 (COLO).

**Wyoming:** PARK CO., solifluction terrace, head of Wyoming Creek, 10,700 ft., Beartooth Range, *Johnson 1873 & 2358* (RM).

**Alaska:** moss-sedge swamp, Tangle Lake, mts. E of Landmark Gap, Alaska Range, *Gjaerevoll 1292* (CAN); emergent hydrophyte in peat bog, Sadlerocket River, 1,500 ft., arctic N slope of Alaska, *Spetzman 1049* (CAN).

**Yukon Territory:** mossy seep, vicinity of Mackintosh, Mile 1,035, Alaskan Highway, southwest Yukon, *Schofield & Crum 7745* (BC); flooded depressions on valley floor, St. Elias Mts., Steele Glacier & vicinity, 5,500–7,000 ft., *Murray & Murray 1302* (CAN).

**Northwest Territories:** 6 miles E of Kittigazuit, ca. 69° 20'N, 133° W, arctic coast, *Porsild & Porsild 2543* (CAN); bald, windswept summit of Mt., Plains of Abraham, ca. 6,000 ft., Mile 82, Canol Rd., Mackenzie Range, *Porsild & Breitung 11796* (CAN).

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